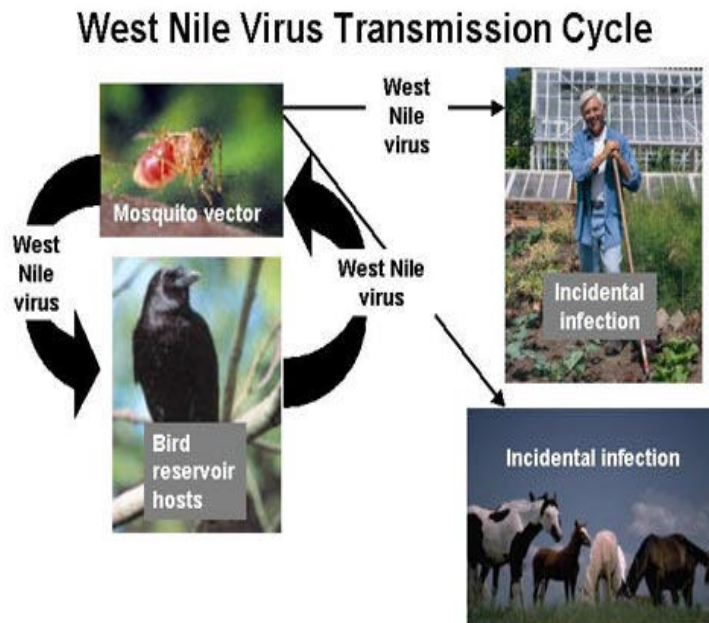


## WHAT IS WEST NILE VIRUS

West Nile virus (WNV) belongs to the family of viruses which includes Japanese encephalitis, St. Louis encephalitis, and Murry Valley encephalitis. These are also called arboviruses, i.e. arthropod-borne (insect) and is primarily transmitted by mosquitoes. It was first isolated in the West Nile District of Uganda in 1937 and is widespread in Africa, Europe, and Asia. It was first detected in the United States in 1999 in New York City. WNV was responsible for many human cases and several deaths during that year. Since then, WNV has spread to 34 states increasing the number of humans which have been affected.



Courtesy of the  
CDC.

Mosquitoes cannot acquire the virus from dead-end hosts such as humans and horses. *Culex tarsalis* and *Culex quinquefasciatus* are the most likely transmitters of WNV in New Mexico. **Crows and jays** are highly susceptible to WNV and are indicators of potential human exposure. Horses are very susceptible to WNV and may contract the disease upon the bite of an infected mosquito. The incubation period is 5 to 15 days and symptomology may include stumbling, muscle weakness, partial paralysis, fever, convulsions, coma, and death. Once symptoms appear, the fatality rate can be as high as 40% in unvaccinated horses. A vaccine is available to protect horses from WNV. **Most infected people show no symptoms or have mild symptoms including fever, headache, and body-aches (flu-like symptoms), often with a skin rash and swollen lymph glands.** People with severe infections may experience high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, paralysis and in some cases death. If you have any of these symptoms, seek medical attention immediately. Presently there is no human vaccine available. The elderly and those with

compromised immune systems are at the highest risk to contract the disease. WNV primarily occurs in late summer or early fall.



*Culex quinquefasciatus* (Courtesy of the CDC)



*Culex tarsalis*.

## WNV SURVEILLANCE

The Bio-Disease Management program collaborates with other agencies such as the Centers for Disease Control, the University of New Mexico, the New Mexico Department of Health, and the New Mexico Scientific Laboratory Division to conduct surveillance for WNV in Bernalillo County in an effort to protect humans, horses and to a lesser degree, other animals from this disease. Surveillance traps are stationed in selected sites in the North and South Valley where mosquito populations are highest. Mosquito samples are collected weekly from May-September. Mosquitoes are identified and processed by staff for analysis. Staff also retrieve dead birds (especially jays and crows), which they have determined to have potentially died of the disease. If the mosquitoes or birds are positive for WNV, the BDM is notified immediately and control strategies are implemented.

## CONTROL

Integrated control strategies target both the aquatic immature (larva and pupa) and adult stages of the mosquito. Larval control is the most effective since the larvae are concentrated, immobile, and accessible in the water. Larval control consists of using oil, which is sprayed on the water surface. The oil prevents the larvae and pupae from breathing and succumb to suffocation. The oil is very effective and environmentally friendly and can be used with the mosquitofish, *Gambusia affinis*.

Control of potentially infected adult mosquitoes is accomplished by using a synthetic pyrethroid insecticide at the lowest effective dosage. This insecticide is of low toxicity to humans in the concentration necessary to kill mosquitoes. Adult spraying is done in late evening to early morning hours because there is little wind, mosquitoes are more active, and people are usually indoors.

**Personal protective measures against mosquitoes include the use of long-sleeved shirts and pants; avoiding shaded areas where mosquitoes may be resting; the use of repellents; repair of window and door screens; and the elimination of any containers, which hold water such as cans, tires, and bottles. Equine protective measures include keeping horses stabled during dawn and dusk; keep screens in stable windows; empty water from buckets, tarps or tires; clean water troughs once a week. Residents who have found birds, primarily crows and jays, which recently died (within 24 hrs), for no apparent reason need to contact BDM staff to retrieve the birds for testing.**

By using integrated mosquito management strategies not only is the Bio-Disease Management program preventing and protecting the community from exposure to WNV but it is also promoting a safer environment. For more information about other aspects of the City's Bio-Disease Management program please call at 873-6613x223.